

LAMPIRAN 1

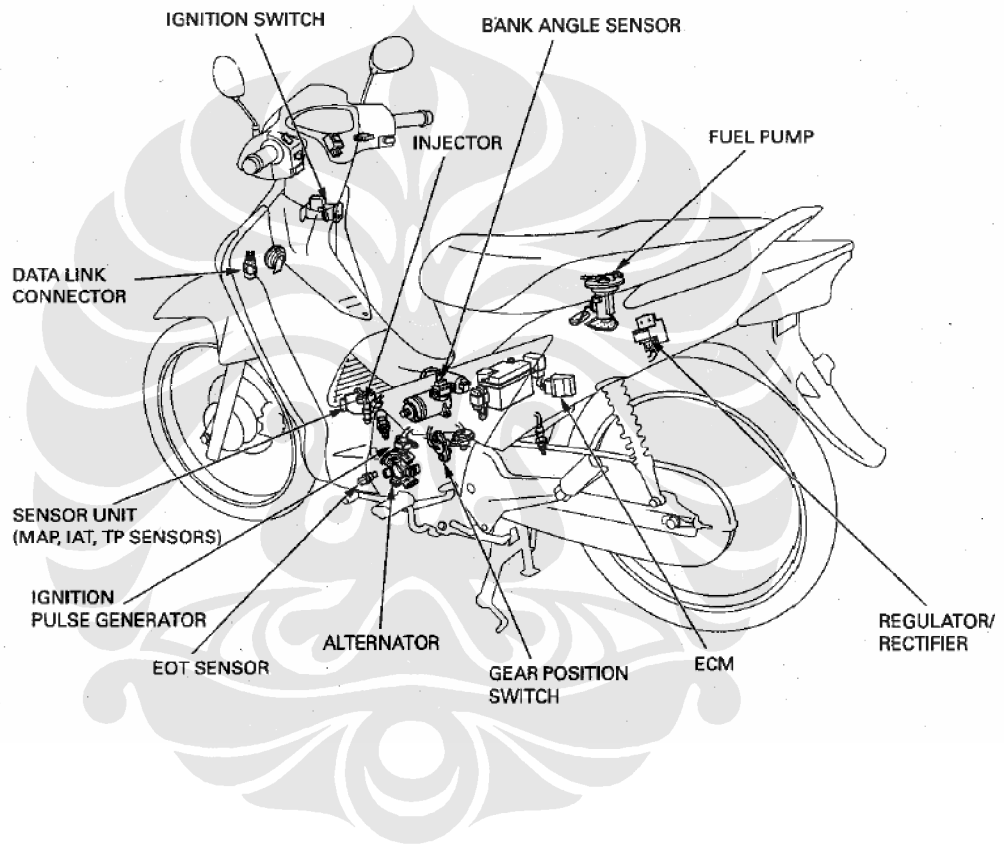
PGM-FI
FUEL INJECTION

Specification

Panjangx lebarX tinggi	1.881 x 706 x 1.081,5 mm.
Jarak sumbu roda	1.239 mm.
Jarak terendah ke tanah	130 mm.
Berat kosong	105.6 kg (tipe CW) 105.7 kg (tipe spoke)
Tipe rangka	Tulang punggung
Tipe suspensi depan	Teleskopik
Tipe suspensi belakang	Lengan ayun dengan pegas ganda
Ukuran ban depan	70/90 – 17 M/C 38P
Ukuran ban belakang	80/90 – 17 M/C 44P
Tipe Velg	Cast wheel Aluminium Alloy (tipe CW) Spoke / Jari-jari (tipe Spoke)
Rem Depan	Cakram Hidrolik dengan piston ganda
Rem Belakang	Tromol
Kapasitas tangki bahan bakar	3,7 liter.
Sistem bahan bakar	Fuel Injection (PGM-FI)
Tipe mesin	4 langkah, SOHC, pendinginan.
Diameterx langkah	52,4 x 57,9 mm.
Volume langkah	124,8 cc.
Perbandingan kompresi	9,0 : 1
Daya maksimum	9,18 PS/ 7.500 rpm.
Torsi maksimum	0,99 kgf.m/ 5.000 rpm.
Kapasitas minyak pelumas mesin	0,7 liter pada penggantian periodik.
Kopling	Ganda, otomatis, sentrifugal, tipe basah.
Gigi transmisi	4 kecepatan rotari / bertautan tetap.
Pola pengoperan gigi	N-1-2-3-4-N
Starter	Pedal dan elektrik.
Aki	MF 12 V – 3,5 Ah.
Busi	ND U20EPR9 / NGK CPR6EA-9
Sistem pengapian	Full transistorized

LAMPIRAN 2

PGM-FI SYSTEM LOCATION

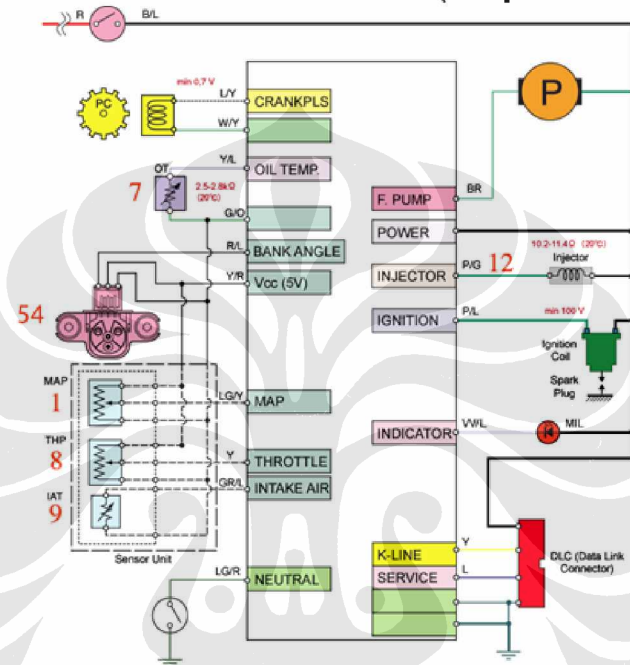


LAMPIRAN 3

Electronic Control System

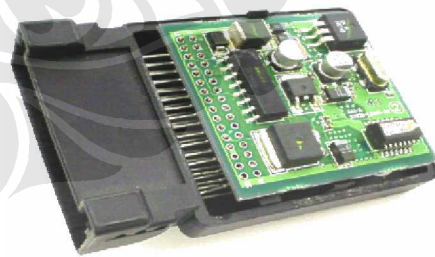


Engine Control Module (Inputs / outputs)



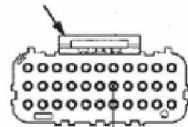
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Disconnect the ECM 33P connector.
 Check for continuity between the injector connector and ECM connector at the wire harness side.
 Check for no continuity between the injector 2P connector at the wire harness side and ground.

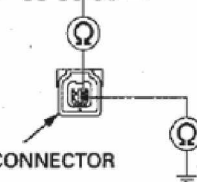


ECU (Electronic-control unit)

ECM 33P CONNECTOR



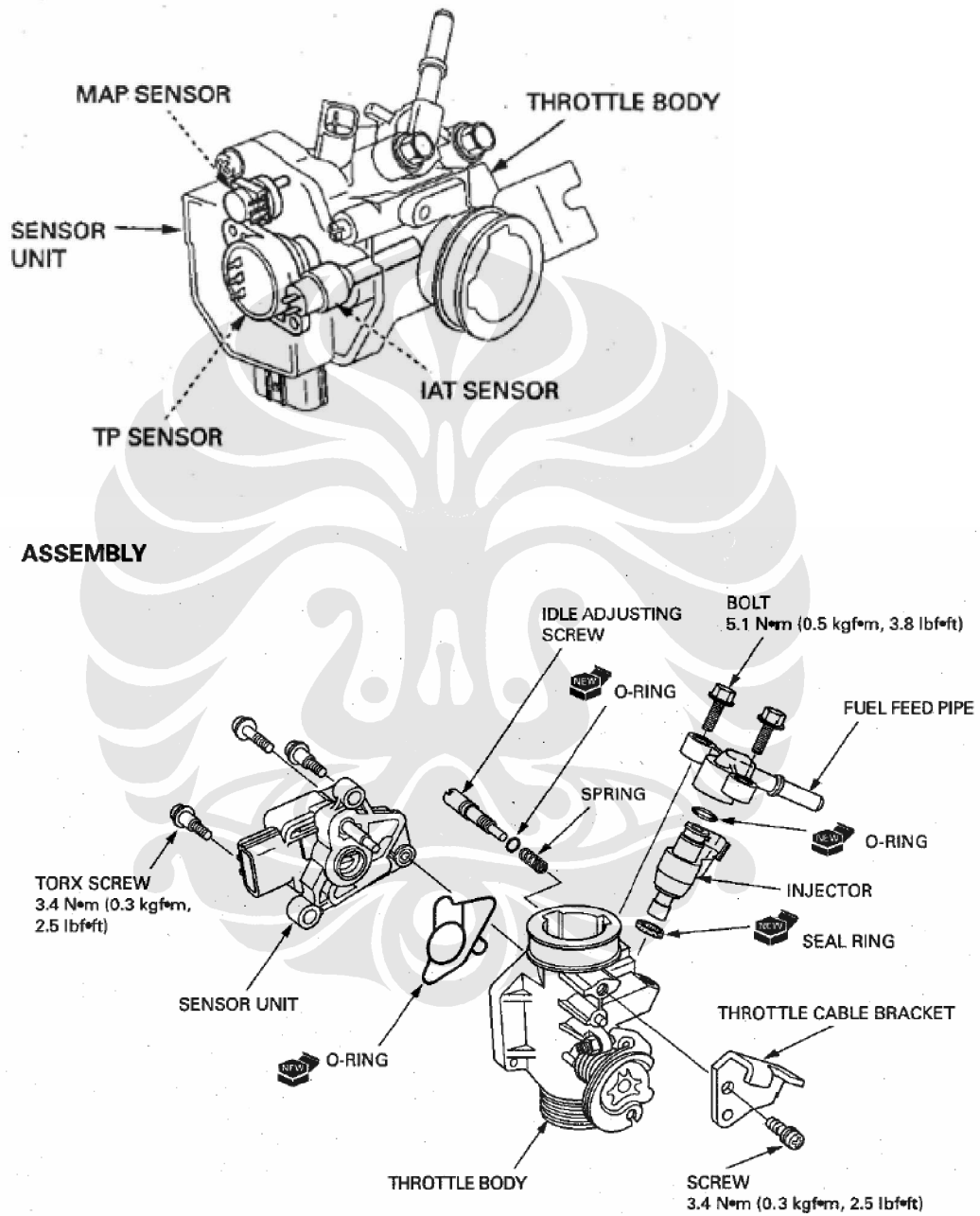
INJECTOR 2P CONNECTOR



CONNECTION: Pink/Green – Pink/Green
STANDARD: Continuity
CONNECTION: Pink/Green – Ground
STANDARD: No continuity

LAMPIRAN 4

THROTTLE BODY ASSY



LAMPIRAN 5

4 Composition part explanation(fuel supply system)

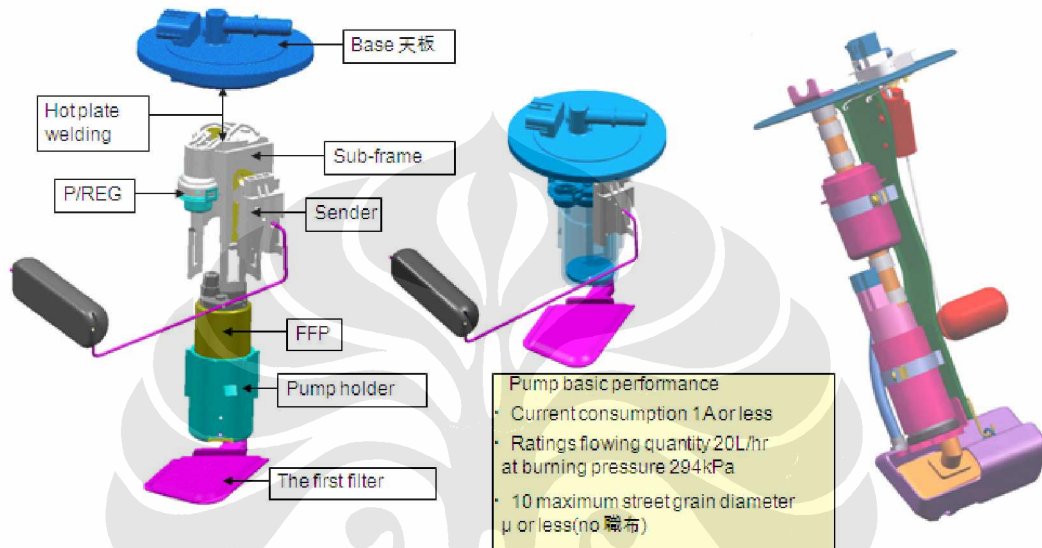
② Fuel pump module(Fuel Pump Module)

Fuel supply

Thing to modulate fuel pump, pressure regulator, and efficient fuel filter.

Small FI (GEVJ· K5VA· GEZM)

Large-scale two wheel(MCT· MEF another)



① Pressure regulator

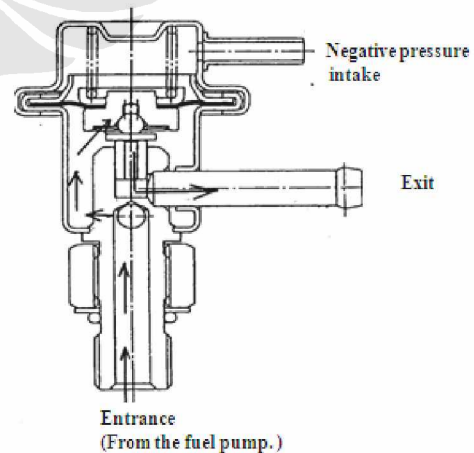
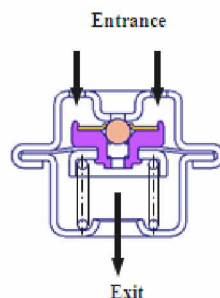
Device to maintain fuel pressure of fuel supplied to injector to stable.

The load and the fuel pressure adjustment spring which the diaphragm receives do the balance and fuel pressure is made constant.

Small FI (GEVJ· K5VA· GEZM)

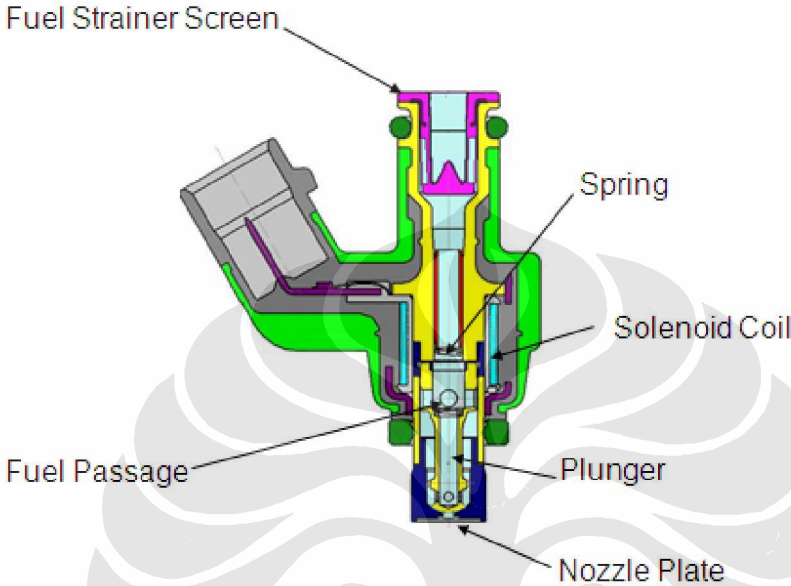
Large-scale two wheel(MCT· MEF another)

The small pressure regulator is adopted builds in the pump module.



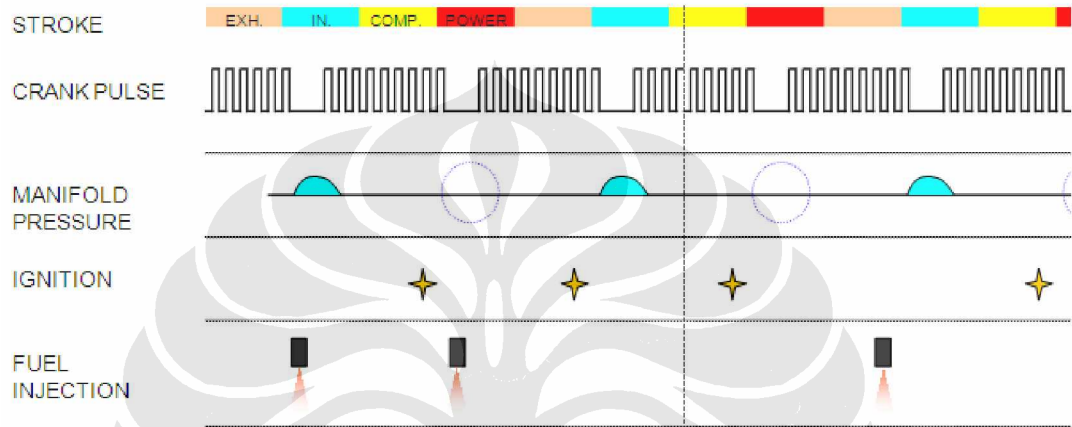
LAMPIRAN 6

Fuel Injector



LAMPIRAN 7

Injection and Ignition routine cycle

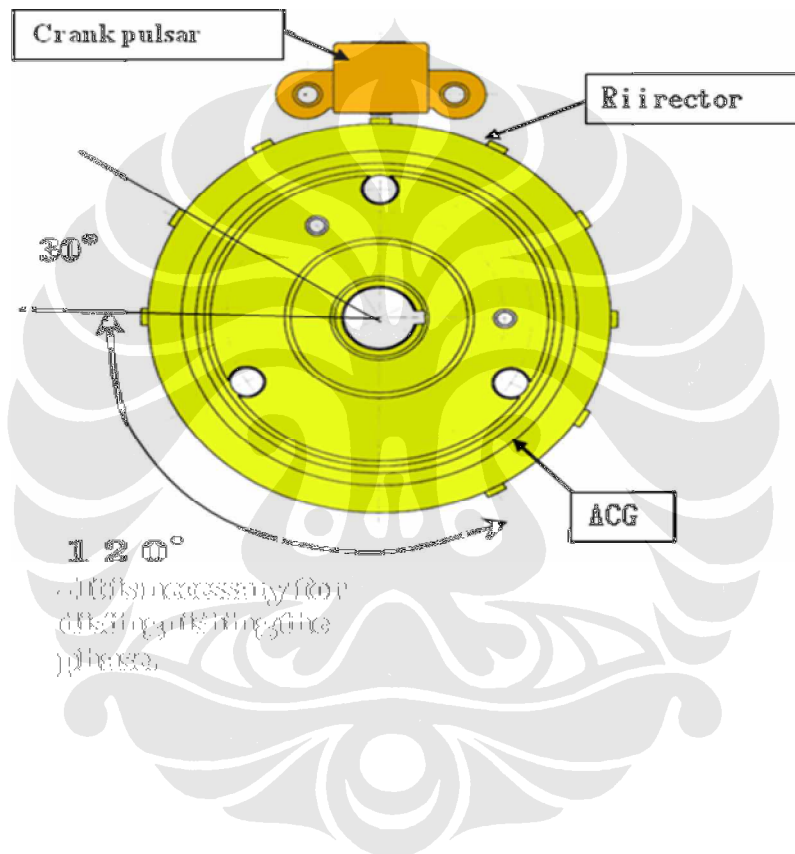


Lampiran 8

Composition part explanation(sensors)

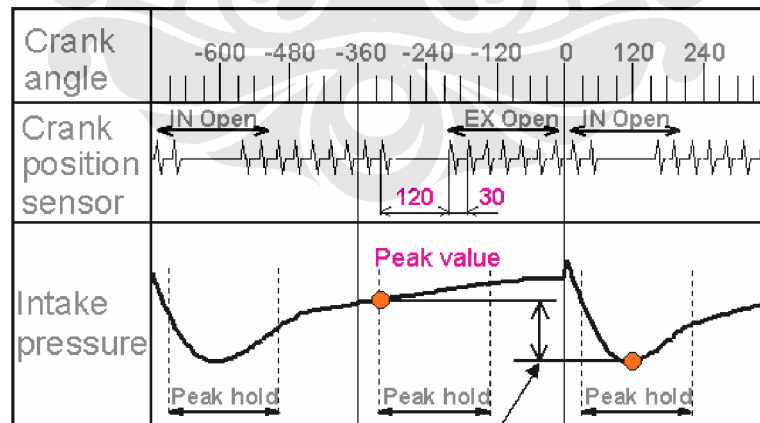
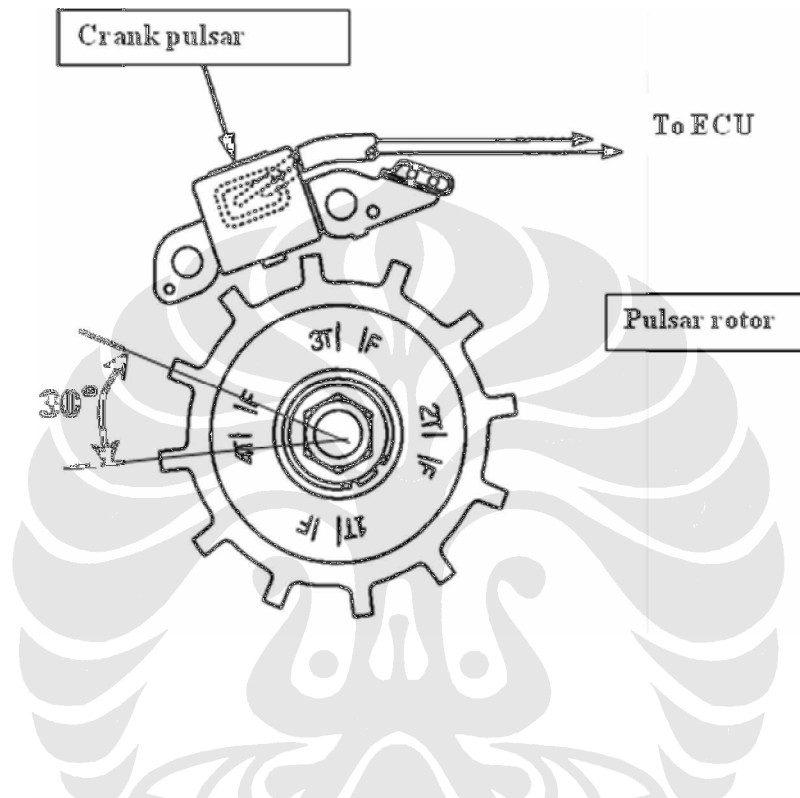
Crank pulsar

It is to distinguish the crank position, and detects the signal of every 30° . Used detection, the phase, the process distinction, and to control the FI ignition of the number of engine rotations.



Lampiran 9

Composition part explanation(sensors)



Lembar Pengambilan Data

Tanggal	16 juni 2008
Waktu Pengapian	5°

Temperatur	
Bahan Bakar	Premium

No.	Putaran (rpm)	Daya (HP)	Konsumsi BB (10ml/det)	CO %	CO ² %	NO _x %	O ² %	HC (ppm)
1	4000	3.8	181	0,13	5.1	9	13.6	382
2	4500	4.6	172	0,12	5.6	24	12.8	282
3	5000	5.6	163	0,11	5.6	24	12.7	205
4	5500	6.4	98	0,11	5.9	29	12.2	188
5	6000	7.1	33	0,18	6.4	29	12.1	210
6	6500	7.7	35	0,22	7.2	43	10.4	172
7	7000	8.0	36	0,32	8	53	9.1	172

Tanggal	16 juni 2008
Waktu Pengapian	7°

Temperatur	
Bahan Bakar	Premium

No.	Putaran (rpm)	Daya (HP)	Konsumsi BB (10ml/det)	CO %	CO ² %	NO _x %	O ² %	HC (ppm)
1	4000	3,8	192	0,4	5,8	29	12	174
2	4500	4,9	183	0,80	5,8	34	11,9	129
3	5000	5,7	173	0,89	6	39	11,3	115
4	5500	6,5	108	0,76	6,5	48	11,1	119
5	6000	7,1	44	1,24	6,5	48	10,7	129
6	6500	7,6	44	1,70	6,9	53	9,8	127
7	7000	7,9	45	0,71	7,5	3	10,1	162

Tanggal	16 juni 2008
Waktu Pengapian	9°

Temperatur	
Bahan Bakar	Premium

No.	Putaran (rpm)	Daya (HP)	Konsumsi BB (10ml/det)	CO %	CO ² %	NO _x %	O ² %	HC (ppm)
1	4000	3.8	203	0.15	5.9	39	11.9	244
2	4500	4.8	193	0.13	5.9	29	11.9	164
3	5000	5.7	183	0.12	6	34	11.9	138
4	5500	6.4	119	0.14	6.4	34	11.7	109
5	6000	7.0	55	0.33	6.9	39	10.5	110
6	6500	7.6	54	0.43	7.6	43	9.5	115
7	7000	7.9	53	0.18	7.9	43	9.6	103

Lembar Pengambilan Data

Tanggal	16 juni 2008
Waktu Pengapian	5°

Temperatur	
Bahan Bakar	30%

No.	Putaran (rpm)	Daya (HP)	Konsumsi BB (10ml/det)	CO %	CO ² %	NO _x %	O ² %	HC (ppm)
1	4000	3.9	192	0.13	6.3	24	11.9	150
2	4500	4.8	182	0.14	6.1	29	11.8	138
3	5000	5.7	172	0.10	6	24	11.8	115
4	5500	6.5	112	1.35	5.7	19	11.5	188
5	6000	7.2	51	0.18	6	24	11.4	164
6	6500	7.7	51	0.27	7	34	10.8	135
7	7000	8.0	51	1.4	6.9	39	9.8	194

Tanggal	16 juni 2008
Waktu Pengapian	7°

Temperatur	
Bahan Bakar	30%

No.	Putaran (rpm)	Daya (HP)	Konsumsi BB (10ml/det)	CO %	CO ² %	NO _x %	O ² %	HC (ppm)
1	4000	3.9	198	0.23	5.6	9	12.3	166
2	4500	4.8	188	0.11	5.5	19	12.5	165
3	5000	5.7	178	0.11	5.8	24	12.3	148
4	5500	6.5	115	0.11	5.8	34	12.2	149
5	6000	7.2	53	0.11	5.9	34	12.1	153
6	6500	7.7	53	0.12	7	48	10.8	129
7	7000	8.0	53	3.51	7.5	3	10.1	162

Tanggal	16 juni 2008
Waktu Pengapian	9°

Temperatur	
Bahan Bakar	30%

No.	Putaran (rpm)	Daya (HP)	Konsumsi BB (10ml/det)	CO %	CO ² %	NO _x %	O ² %	HC (ppm)
1	4000	4.0	204	0.26	6.2	19	11.5	194
2	4500	4.8	193	0.21	6.6	24	10.8	135
3	5000	5.7	183	0.17	6.7	29	10.7	121
4	5500	6.4	119	0.11	6.5	34	11.1	122
5	6000	7.1	55	0.37	7	34	10.7	132
6	6500	7.8	55	0.37	7.6	39	9.6	130
7	7000	8.1	55	0.25	8.1	58	9.3	171

Lembar Pengambilan Data

Tanggal	16 juni 2008
Waktu Pengapian	5°

Temperatur	
Bahan Bakar	40%

No.	Putaran (rpm)	Daya (HP)	Konsumsi BB (10ml/det)	CO %	CO ² %	NO _x %	O ² %	HC (ppm)
1	4000	3.8	197	0.13	6	34	11.9	170
2	4500	4.9	187	0.11	5.9	24	11.7	173
3	5000	5.7	177	0.11	5.5	19	12.3	192
4	5500	6.4	115	0.11	5.6	14	12.4	174
5	6000	7.1	53	0.11	6	19	12.2	167
6	6500	7.7	53	0.12	6.9	24	10.5	177
7	7000	8.0	53	0.53	6	24	12.4	256

Tanggal	16 juni 2008
Waktu Pengapian	7°

Temperatur	
Bahan Bakar	40%

No.	Putaran (rpm)	Daya (HP)	Konsumsi BB (10ml/det)	CO %	CO ² %	NO _x %	O ² %	HC (ppm)
1	4000	4.1	203	0.29	4.7	4	16.5	253
2	4500	4.9	193	0.17	5.9	19	11.7	176
3	5000	5.7	183	0.1	5.6	14	12.6	148
4	5500	6.5	118	0.12	5.6	14	12.6	172
5	6000	7.2	54	0.12	5.7	14	12.5	161
6	6500	7.8	55	0.12	7.1	29	10.5	140
7	7000	8.1	55	0.65	7.3	19	11.1	141

Tanggal	16 juni 2008
Waktu Pengapian	9°

Temperatur	
Bahan Bakar	40%

No.	Putaran (rpm)	Daya (HP)	Konsumsi BB (10ml/det)	CO %	CO ² %	NO _x %	O ² %	HC (ppm)
1	4000	3.9	209	0.12	6.2	19	11.4	138
2	4500	4.8	198	0.10	6	19	11.9	132
3	5000	5.7	188	0.43	6.5	24	10.9	200
4	5500	6.4	122	0.10	6.2	19	11.7	115
5	6000	7.1	56	0.1	6.1	24	11.5	135
6	6500	7.7	56	0.41	6.2	29	11.1	154
7	7000	8.0	56	0.17	8	43	8.9	132

Lembar Pengambilan Data

Tanggal	16 juni 2008
Waktu Pengapian	5°

Temperatur	
Bahan Bakar	50%

No.	Putaran (rpm)	Daya (HP)	Konsumsi BB (10ml/det)	CO %	CO ² %	NO _x %	O ² %	HC (ppm)
1	4000	3.8	202	0.32	4.3	4	17	254
2	4500	4.9	191	0.11	5.6	14	12.2	161
3	5000	5.6	181	0.16	5.1	9	13.1	244
4	5500	6.3	118	0.14	6	4	12.4	216
5	6000	7.0	54	0.18	5.1	4	12.9	269
6	6500	7.5	54	0.26	7	9	11.4	209
7	7000	7.8	54	0.76	8.2	29	8	223

Tanggal	16 juni 2008
Waktu Pengapian	7°

Temperatur	
Bahan Bakar	50%

No.	Putaran (rpm)	Daya (HP)	Konsumsi BB (10ml/det)	CO %	CO ² %	NO _x %	O ² %	HC (ppm)
1	4000	4.0	208	0.13	5.6	19	12.4	204
2	4500	4.9	197	0.13	5.6	4	12.5	202
3	5000	5.6	187	0.16	5.3	0	12.8	213
4	5500	6.4	125	0.14	6	4	11.7	178
5	6000	7.0	56	0.13	6.6	4	11.2	176
6	6500	7.6	56	0.14	7.2	34	9.6	159
7	7000	7.9	56	0.48	8.7	53	8.9	184

Tanggal	16 juni 2008
Waktu Pengapian	9°

Temperatur	
Bahan Bakar	50%

No.	Putaran (rpm)	Daya (HP)	Konsumsi BB (10ml/det)	CO %	CO ² %	NO _x %	O ² %	HC (ppm)
1	4000	3.7	214	0.18	5.7	9	12.7	184
2	4500	4.8	203	0.11	5.8	34	12.1	159
3	5000	5.6	192	0.12	5.4	9	12.4	159
4	5500	6.3	125	0.12	5.8	9	11.7	166
5	6000	6.9	57	0.12	6.3	9	12.2	177
6	6500	7.4	58	0.31	7.3	29	8.4	140
7	7000	7.7	58	0.27	6.1	9	11.6	155